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ABSTRACT

Distance education is the only prospect of bringing further educational opportunities within the grasp of most adults in Guyana. Some factors that make distance education desirable, such as the infrastructure and present economic problems, militate against its provision. Many of the best educated personnel in all sectors have emigrated; the loss of teachers has caused the quality of education to deteriorate. Advantages of distance education are greater ease of student access and consistently high quality teaching materials. Disadvantages include the effort and cost of preparing distance education and high dropout rate. An effective distance education system draws on the tools available to adopt a multimedia approach: printed materials, audio and video materials, computers, kits, audio-teleconferencing, interactive videodiscs, and direct teaching. Three main areas of work in distance education must be conducted efficiently to ensure success: course production, student support, and administration. Existing projects address two major needs: upgrading the teaching force and preparing students to enter the university. Ten projects are suggested as likely to have the greatest initial impact with the lowest cost, including: a foundation course in teacher education, a university preentry course, and enlargement of distance learning capacity of the Institute of Adult and Continuing Education (IACE). (Appendixes include a workshop brochure and IACE Distance Education Division Year I Planner.) (YLB)

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# DISTANCE EDUCATION IN GUYANA

Report of a Project
Identification Consultancy

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Consultant Report

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## CONTENTS


| | | Page |
|---|---|---|
| 1. | The need for distance education | 1 |
| 2. | The education needs of Guyana | 4 |
| 3. | Distance Education | 10 |
| 4. | The Organization of Distance Education | 23 |
| 5. | Distance education experience and resources in Guyana | 28 |
| | a) Distance education experience in Guyana | 28 |
| | b) Distance education resources in Guyana | 36 |
| | c) Infrastructural resources for distance education in Guyana | 40 |
| 6. | A Distance Education Policy for Guyana | 46 |
| | Distance Education Projects for Guyana | 50 |

## PREFACE

The Consultancy took place in Guyana from 24th August to 5th September 1989.

Thanks are due to all those who helped in the prosecution of this Consultancy; in particular thanks are due to Ms. Cecilene Baird, Pro-Chancellor of the University, who greatly helped the Consultant, not only on this occasion, but also in a previous Consultancy in Guyana in 1974, to the Vice Chancellor of the University of Guyana and the Minister of Education, who gave every encouragement and support, and to Mr. Samuel Small who organised the programme and made it both instructive and enjoyable.

# I DISTANCE EDUCATION IN GUYANA

## INTRODUCTION

### The Need for Distance Education

1. Guyana might be regarded as an ideal country for the use of distance education methods. It has a population of about 700,000 people, inhabiting a country of some 83,000 square miles. Although about 90% of them live in a coastal strip which is five to ten miles wide, communication is not easy; there are no railways, roads are inadequate and in a poor state of repair because of the present economic difficulties, and for the same reason bus services are unreliable, and the possession, maintenance and use of motor vehicles is very expensive. Many areas of the hinterland can only be reached by boat. Internal air services are currently suspended.

2. The only University (the University of Guyana) and the only Teacher Training College (The Cyril Potter College of Education) occupy contiguous campuses some four miles from the centre of the capital, Georgetown. Since the University has no residencies, all students have to make their way to the campus each day. The more distant students find this a heavy financial burden in the present harsh economic climate, and many potential users of University and College facilities find it prohibitively expensive. For this reason, the University's Institute of Adult and Continuing Education has its offices in central Georgetown, and conducts its classes in a variety of scattered premises which are more accessible to the target population in

Georgetown itself, and in New Amsterdam, Linden and Anna Regina, where it has branch offices.

3. In spite of the work of the Institute of Adult and Continuing Education, most adults in Guyana are, for one reason or another, out of the range of further educational opportunities in existing institutions. The only prospect of bringing such opportunity within their grasp would appear to be distance education.

Problems of Distance Education in Guyana

4. It is necessary to be clear from the outset, however, that some of the factors which make distance education desirable in Guyana also militate against its provision. The infrastructure and present economic problems of the country present formidable difficulties. Among these are;

1. Inadequate provision for the rapid printing of course materials.

2. An unreliable postal system for the sending of tutorial materials and the return of assessments through the mails.

3. Inadequate broadcasting coverage of the whole country. Many areas are unable to receive clear broadcasts from the Guyana Broadcasting Corporation.

4. A shortage of hardware.

a) It is suggested by the Ministry of Education that most schools, including Primary schools, have a radio, and many also have an audio cassette recorder. The present state of repair of these items is not currently known.

b) The ownership of television sets is uncommon, though they may be widely distributed. Television broadcasting is in the hands of private companies, and television broadcasts are available in several of the regional capitals. Television sets and video recorders are not available in schools.

c) Very few micro-computers are currently in use. The University of Guyana, the leading educational institution of the country, has only a very few computers on campus.

d) Moreover, in all these cases, repair and maintenance facilities are few and far between, and are expensive.

5. Electricity supplies are frequently interrupted; in some cases these interruptions last for several hours each day.

6. Telephone services are unreliable.

5. These special circumstances make it difficult to envisage the immediate use of a multi media approach to distance education. Nevertheless the educational needs of Guyana are so pressing that an early solution to these problems must be found.

## II THE EDUCATIONAL NEEDS OF GUYANA

6. Guyana is faced with formidable economic problems, which it is now vigorously attempting to overcome, in consultation with the I.M.F. In common with all countries, the education and training of its citizens is a key to economic development. At the present time this is giving cause for concern for the following reasons:

7. 1. Many of the best educated personnel in all sectors of the nation's life have emigrated. This number includes many educators. This emigration is on an immense scale, considering the size of the population: about 25,000 are estimated to be emigrating each year, but many believe this to be an under-estimate. These emigrants are those who have knowledge and skills which are welcomed by the countries to which they go, as there is no market in those countries for the ill-educated and the unskilled. Whilst these numbers include a high proportion of dependants, these too have been the recipients of expensive education in their own country before leaving. Amongst those who leave are many teachers.

8. 2. The quality of education provided by the schools, both at primary and at secondary levels, is said by many to have deteriorated, due in large part to this loss of qualified and experienced teachers to emigration. These emigrating teachers are replaced by less well-qualified, and in many

cases totally untrained teachers.

9. 3. A further cause of the loss of teachers is the low remuneration and status of the teaching profession. Some trained secondary school teachers are currently employed as security guards in Georgetown, in which posts they receive more than they did as teachers. Others are leaving to join commerce and industry, and to start small ventures of their own, not least in the "parallel economy"

10. While it is encouraging to note that there are still very many excellent and dedicated teachers serving the schools, there is no doubt that the overall quality of the profession has deteriorated alarmingly.

11. 4. One symptom of this deterioration is that an inadequate number of school leavers is qualified each year to enter the University of Guyana, and in particular, its Faculty of Education, and the Cyril Potter College of Education, with adverse consequences for the provision of manpower, but also for the per capita costs of tertiary education.

12. The outcome of these factors for the educational system is serious. In particular, and as already indicated, the number of fully qualified teachers in the nation's schools is inadequate, in some districts barely reaching 50%. Many of the unqualified teachers are enthusiastic and hardworking, and would like to prepare themselves for entry into the College of Education. Facilities for this are not available to them.

Ministry of Education Action

13. The Ministry of Education is addressing the issues with urgency. It has originated a Policy Paper on Education which is in the final stages of pre-publication discussion (Appendix 1), and it has already formulated a number of projects for the consideration of outside donors. Perhaps the most important of all those which are currently being implemented is the I.D.B. Educational Development Project.

14. The University I.D.B. Project has three phases:

1) Phase A is an institutional development project for the University. This phase is undertaking a detailed study of all aspects of the University's work, and will eventually report on desirable adaptations to the University's programme in all aspects of its life.

2) Phase B will deal with the finances of the University;

3) Phase C is concerned with student loans.

This project, which also provides for specialist teaching staff for the University, will be of the greatest importance to the future of tertiary education.

15. A project proposal has also been prepared for a Primary Sector Improvement Programme. This too will have three phases;

1) A Primary Schools Buildings upgrading programme;

2) Improving the capacity of the National Centre for Educational Resource Development;

3) The upgrading of the College of Education, including the provision of resource persons.

16 The Ministry has the intention of establishing branches of the N.C.E.R.D. in each region, which will bring opportunities for access to educational materials closer to many schools.

The Institute of Adult and Continuing Education of the University of Guyana

17 The main instrument for outreach of the University of Guyana is the institute of Adult and Continuing Education, ably directed by Mr Samuel Small. This Institute, which started life as the Department of Extra Mural Studies at the University of Education, was established on 1st January 1976, to provide "an effectively organised educational service for adults and out of school youths not engaged in University courses, so as to equip and assist them in making an increased contribution to the economic, social and cultural improvement of the Guyanese society."

18 The Institute has recently constituted a Distance Education Advisory Board, with the Vice Chancellor as Chairman, and a representative membership, to advise on the development of this aspect of the Institute's work, and to ensure consultation and co-operation with the rest of the University and the community. The advisory board has recently held its first meeting, and a second meeting was held during the Consultant's visit.

19. The Institute is now organised in three divisions, these are:

a) The Programming and Conference Division. This Division organises formal and non-formal adult education programmes in response to needs identified by staff, and requests made by other institutions, agencies, both Governmental and non-Governmental, organisations, and communities. It also conducts two special programmes, a Diploma of Occupational Health and Safety, and a fourth year supplementary programme, arranged at the request

of the Ministry of Education, to supplement the formal courses of study in Chemistry, Physics, Biology, Mathematics and English being pursued by students in a selected number of secondary schools accessible to the University.

b) The Distance Teaching Division. More will be said of this Division later in this Report.

c) The teaching of English as a Foreign Language Division. This Division offers courses for non-English speaking residents in Georgetown, and thus cements relationships between foreign nationals, especially those from the Embassies, and the University. It also offers a full-time course in methods of teaching English as a Foreign Language to qualified and experienced teachers with a Degree in English.

## III DISTANCE EDUCATION

20. Distance Education is often thought of as an inferior alternative to normal formal education, to be offered as a last desperate measure when an adequate amount of traditional education cannot be provided. This is however, by no means the case. Many countries, both developed and less developed, have found it to be superior to traditional education for some people and for some purposes.(1)

21. It has, among others, the following advantages of its own:

1. Greater ease of access by many students and potential students, especially adults with work or family commitments.

(1) See unpublished Discussion Papers by Deakin University on the Southern African Distance Education Project SADCC 1986.

2. Consistently high quality of teaching materials, due both to the care taken in preparing the teaching materials, and to the public visibility of these materials.

3. The more intimate interface with work. Because students do not have to withdraw from their work to study, they can more easily relate their education to their work. This is particularly important with professional and post-professional programmes.

4. The experience of preparing distance educational materials has a staff development effect on those who undertake such preparation, since it obliges them to consider carefully the structure of their subject and the most effective form for its presentation.

5. Students practice a more independent form of learning and "learn to learn" in a way which is not always common in face to face teaching.

6. It is available to all who wish and are qualified to participate in it, and not only those who are physically remote from normal educational institutions. For example, there are many adults living in Georgetown who are not able to get easily to the appropriate educational institution, or who are not available at the time that the programmes they wish to study are available. Distance education students can choose the time and the place of their study.

7. Distance education students can learn at their own speed and do not have to keep in step with other learners in the cohort.

8. Learners can take as much or as little distance education as may be appropriate to them personally or professionally and do not have to follow "programmes" determined as appropriate for them by other people.

22. These are formidable advantages in a well conceived and organised system of distance education. There are however a number of disadvantages:

1. The first disadvantage is the time, effort and cost of preparing distance education. Since the lesson notes have to be completely self-explanatory, they need to be written by experts with the greatest possible care, reviewed and improved by an independent reviewer, and field tested before being used with registered students. The British Open University developed a team approach to the initial writing of course units, which was done by course teams. This had the advantage of allowing joint discussion of the course outlines, the content of the individual units, and the notes produced. Many errors could be eliminated at an early stage, and the content clarified by repeated course review and revision. This method has been adopted in many countries, and has been found to be particularly efficient. It is, however, not the only way in which effective course units can be prepared, and tends to be very expensive, but it is one which is preferred by those who have used a number of different methods.

23 The preparation of teaching materials with this amount of care and attention was virtually unknown before the advent of programmed learning, which was the pioneer in the preparation of self-teaching carefully graded materials. Many of the early members of the British O.U. had worked in the field of programmed learning, and brought their skills with them to the developing field of distance education.



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24. One of the most useful by-products of this method of preparing distance education materials is the staff development effect on the course writers. Traditional teaching could hardly fail to be improved when the teachers have been involved in this sort of detailed scrutiny of curriculum, syllabus and teaching method.

25. The inevitable consequence of this detailed approach to materials writing is that the initial outlay on the materials is heavy, although it will vary tremendously according to whether the writers are full-time or part-time, and how they are remunerated for their work.

26. It is important, too, that the materials should be well produced. Illustrations must be carefully prepared to elucidate the notes, and the material should be clearly and attractively, though not expensively, produced. Experience elsewhere, which should be used as a guide only, indicates that the process is not cost-effective for less than fifty students, that above fifty there are substantial economies of scale, that over 500 the cost tends to level off.

27. Of course the cost will depend greatly on other factors, e.g.:

a) Whether the teaching is by print only or whether use is made of direct broadcasting by radio and/or T.V. and by audio and/or video cassettes.

b) Whether some materials are taken ready-made from other systems, e.g. by using the services of the Commonwealth of Learning, and what charge, if any, is made for these resources.

c) The extent of student services provided.

28. One should also note an additional advantage, which bears directly on the cost of provision. Many course units provided for distance education can be incorporated at minimal cost into traditional face-to-face teaching at school, college, or University level, while broadcasts to students can be heard also by the general public, to whom they would be of general educational interest. This is particularly important in the case of teachers.

29 2. The second major disadvantage of distance education is that there is often a heavy drop out of students. It is difficult for students to work on their own with distance materials. Many of them do not have very suitable working conditions at home, and if they have no electricity, or an irregular supply, they find study to be irksome. Moreover, if they meet a difficult point in their work, and do not understand some vital step, they may be unable to continue to benefit from later material.

30. It is interesting that in studies of students opinions about distance education, it is generally found that the single most important need that students express is for more contact with tutors. In many instances, such as the British O.U., each student is allocated to a tutor counsellor, who will guide the student until the completion of his/her course, which may take several years, and to a Course Tutor for each course which the student is taking. The great majority of Tutors are only working part-time for the O.U. There is an O.U. office for each region of the country, which is responsible for arrangements in that region. Tutorials are held in main centres of population, though attendance at tutorials is voluntary, and many students are not within range of tutorial classes.

31. In other countries, where distance or accessibility does not make it possible to use such a tutorial system, students may get in touch with Tutors by telephone or two-way radio. In some cases there is a 24-hour telephone service available to students, while in others telephone recording devices record students calls in hours when the telephone is not attended personally.

32. Two things are clear: one is that effective student support services reduce student drop-out considerably. The other is that even students who fail to complete their programme are likely to have learned a great deal from the work they

have completed: one must be careful not to assume that when a student drops out, the resource dedicated to that student has been wasted.

33. In spite of these problems one must always bear in mind that in many cases, and this would be true of Guyana, distance education may be the only way of extending educational opportunities to those who are currently deprived of them.

The Tools of Distance Education

34. One of the main advantages of distance education is the possibility of adopting a multi-media approach. The media most commonly employed are:

35. 1. Printed materials. The main advantages of the print medium have been summarised by Professor Horlock, the present Vice-Chancellor of the British Open University: "Books and other printed texts have great advantages over electronic media; they are portable, need no power supply, contain very large amounts of information within a compact format, lend themselves to 'random access' treatment and to easy cross-reference. They can be delivered relatively cheaply to any part of the United Kingdom, and the skill to use them is possessed by almost every member of the adult population. It is as well to remember these significant facts in favour of the printed

word before we acknowledge the undoubted attractions of the newer media."

36. It is also important to recognise that, where a suitable text-book exists, this may be used in association with the distance education notes: in some cases the notes may guide the student through the text, giving further elucidation of the more important concepts, and providing additional examples and teaching material.

37. 2 Audio and video materials. Audio and video materials can be used by direct broadcast and heard/seen on radios and television receivers, or in cassette form on audio or video cassette recorders. Direct broadcasts are valuable because they have a dual audience, being heard directly by audiences far in excess of the registered students. This will be particularly valuable in Guyana, where there is a voracious appetite for radio and television programmes. Indeed in the case of television the country seems to be at breakthrough point where television sets are becoming increasingly common, even in areas on the very edge of effective reception, and where service facilities are gradually being developed to meet demand. Some areas, such as Georgetown, New Amsterdam and Linden have video cassette rental shops, which indicates that enough people own video cassette records to make video rentals a commercially profitable enterprise.

It is still very unlikely, however, that a high proportion of the target population in Guyana as a whole would have access to a VCR, and widespread access to video technology is still prohibitively expensive. It might, however, be possible gradually to equip study centres with video equipment, to bring video cassette viewing within the range of an increasing number of students.

38. At least in the initial stages it would be necessary to ensure that such equipment is controlled by someone experienced in its handling, to reduce the risk of malfunction. It is interesting in this connection that even at the University, which has specialist staff in a communications centre, undergraduate students are not allowed to obtain hands-on experience in the "Broadcasting Studio", even though this is not in fact currently equipped with transmission facilities because of the risk of damage to sensitive equipment.

39. 3 Computers. Guyana may also be at breakthrough point with regard to the availability and use of computers. It is unlikely, however, that it would be possible to integrate the use of computers into student work in distance education for several years. It is clear however that computers would be virtually essential to the Manager of a distance education system when the system is

in full operation and students will have to be registered, sent teaching materials of various sorts, put in touch with specific tutors, have assignment marks noted, be informed of their situation from time to time, and eventually issued with certificates. To undertake this work manually would not only be expensive in terms of administrative and secretarial time, but would also be subject to error, which could be very damaging and demoralising to students and tutorial staff alike. The complex problem of the payment of part-time tutors could also most effectively be managed by a suitable computer programme.

40. Phase A of the current I.D.B. programme has a component which is to advise the University on the incorporation of computer facilities in the student records office and in the finance office. These new skills and techniques could be used to design and install a suitable programme for a distance learning system, though it might be desirable for specific advice to be sought on the provision of suitable programmes and the possibility of these being compatible with the main University system.

41. 4 Kits. In some scientific disciplines it is possible to produce kits which contain the necessary elements for practical experiments. These may be extremely complex and expensive when dealing with degree level work. At a lower level, however, cheap and simple kits can be designed which would greatly enhance scientific teaching.

42. 5 Audio and tele-conferencing. Some thought is currently being given in Guyana to audio and tele-conferencing equipment. While such facilities could hardly fail to be useful to students, the extent of the organisation required would make it unlikely to be of great utility until extensive pilot projects had been held. Television facilities should only be considered in cases where audio facilities are known to be inadequate. It is interesting to note that the British Open University experiments on video-conferencing, incorporating interaction between students and tutors in graphic as well as audio form had to be discontinued because the experiments in one region strained the resources of even that institution with its multi-million pound budget.(2)

43. 6 Interactive video discs, though containing great promise for the future, are also in an inadequate stage of development for use at the present time.

44. 7 Direct teaching. It may seem contradictory to include direct teaching as a distance education resource. Such teaching is however incorporated in a number of existing distance education systems. This can be done in two different ways which are not mutually exclusive.

a) Occasional classes and tutorials conducted in regional or district centres by visiting or resident tutors.

(2) They are however being developed by a major commercial company

b) Classes held in institutions in major centres, of longer duration, such as one or two weeks. In some subjects, especially in science and technology, this may be the only way of giving practical experience to the students.

45. An effective distance education system will draw on the various tools outlined above, producing a different combination for each subject matter area.

## IV The Organization of Distance Education

46. There are three main areas of work in distance education, each of which requires planning and organization.

47. 1. Course Production. This area is responsible for planning and producing the materials for the courses. It will involve:

a) The development of staff to undertake this work. These staff can be divided into four groups

1. Those who have course design and distance education skills, who can guide the course writers in any subject area on the techniques appropriate to distance education.

2. The course writers, who will be subject specialists in the areas concerned.

3. The course reviewers who will read and revise successive drafts of the course materials. These shall be subject specialists with knowledge and experience in distance education.

All these categories of staff will need initial and continuing education to enable them to undertake their work successfully.

b) The planning and writing of courses. This involves, among other activities:

1. The structuring of the whole course.

2. The selection of media.

3. The sequencing of the course into module and lesson units.

4. The writing of course materials, either by an individual or by a team.

5. The scrutiny of the course by an outside expert.

6. Revision in the light of the reader's comments.

7. The later revision of the course in the light of experience.

48. 2 Student support. This will include the arrangement for helping the students with their studies, and may include:

a) Discussion, in person or through writing, with potential students making clear the nature of distance education, the demands of the course and the commitment required, the necessary prior knowledge, the length of the course, the nature of student support, and the precise qualification to which the course leads;

b) the provision of individual tutors;

c) the provision of study centres;

d) the provision of advice, when needed, either by telephone, letter or personal discussion.

e) the provision of tutorial classes or longer periods of face-to-face teaching.

f) the continued motivation of the students by frequent communication, questions about individual progress, difficulties, etc.

One must not overlook the need for intensive training of the support tutors.

49. 3. Administration. Those responsible for the administration of the programme will attempt to lift the burden of the day to day management of the system from those responsible for course development and student support. Amongst other things their work will involve:

1. the provision and distribution of publicity about the courses available and correspondence with potential students to clarify relevant issues.

2. the printing of course materials

3. the registration of students and keeping of records, especially in relation to the assignment marks and the periodic assessments. There should be a system which signals any individual problems, such as failure to make progress, so that these can be drawn to the attention of the student support team.

4. the management of the budget.

5. the payment of tutorial and other part-time staff

6. ensuring the students receive the course materials

7. ensuring satisfactory arrangements for any examinations.

50 All the three areas outlined above must be conducted efficiently if a distance education programme is to be successful. Each distance education enterprise, and many countries have many institutions offering courses by distance education, will require a director, who will be responsible for the co-ordination of the whole project and will ensure the efficiency and integration of each section of the organisation.

## V Distance Education experience and resources in Guyana

### Distance Education experience in Guyana

51 A surprising array of teaching is already taking place, and is being planned, through the medium of distance education. The projects about which i formation has been provided have been undertaken by the Ministry of Education, and particularly its National Centre for Educational Resource Development, and the Institute of Adult and Continuing Education of the University of Guyana. It is clear that a great deal of experience has already been gained with minimal resources. Both the Minister of Education and the Vice-Chancellor of the University have expressed their support of and commitment to the further development of distance education.

52 While informants have been largely drawn from the Ministry of Education and the University the consultant also had the opportunity of consulting a special meeting of the Distance Education Advisory Committee of the University of Guyana. This Committee contains representatives of all the relevant Ministries and agencies and of the private sector, and of each of the Faculties of the University, though in only one case at Dean level.

53 Existing projects are addressing two major needs, one of critical importance to the Ministry of Education, the other of critical importance to the University.

1. The first need is for the upgrading of the teaching force. As already indicated, many thousands of people are emigrating from Guyana each year, of whom a large number are teachers. In addition, many people are leaving the teaching profession to enter better paid employment. As a result the country is faced with a critical shortage of qualified teachers. In some regions up to fifty per cent of the teaching force is untrained. Moreover, of these unqualified teachers, very many do not have the basic qualifications necessary for them to enter the College of Education. It is an intention of the Ministry of Education to remedy this deficiency. The Cyril Potter College of Education provides a nation-wide entry examination to the College, and already offers a one year part-time course for unqualified teachers to bring them up to the level of the examination. This course, however, is available only for those who are able to make their way to the College for the programme. The devaluation which has been a part of the Government Economic Recovery Programme has made travel to the College prohibitively expensive for some students.

2. The University is faced with a cognate problem. Perhaps in part because of inadequate teaching there is an insufficient cadre of entrants to the University. Moreover, many of those who satisfy minimum university entrance requirements in maths and science fail to complete successfully the pre-entry course and are therefore not allowed to start programmes in the Faculty of Natural Sciences.

One attempt which has been made to address this problem is a series of Form Four classes, which are held at the University during term time to supplement the formal course of study in Chemistry, Physics, Biology, Mathematics and English being pursued by students in a selected number of secondary schools. Some schools have no qualified teachers in one or more of these subjects: pupils from these schools therefore have particular handicaps. Moreover, the problem is compounded by the fact that many of the teachers in the first two years are primary teachers who have been transferred into secondary schools without additional training, and often do not have the necessary subject knowledge to make the teaching effective. This programme, which has been in operation for two years, is meeting with a moderate level of success, and various modifications are being planned.

54 The University is already operating at a sub-economic level in that it does not admit as many students as it could teach with existing resources, and that many of those who are admitted subsequently fail. There is therefore a pressing need to prepare additional students for University entrance. These may be students who have failed in their pre-entry course, or whose C.X.C. or G.C.E. grades do not meet normal University entrance requirements. There is a large cadre of such students who would like to enter the University, many of whom are already working as unqualified teachers.

Project A.

## Hinterland Teacher Upgrading Programme

55 The first project which will be discussed briefly is a distance learning project only in that it has been conducted at a distance from Georgetown. Its aim is to raise the level of unqualified hinterland teachers so that they can enter a formal teacher training course. Fifty-five teachers were brought together to a centre in the hinterlands where they received three periods of face to face teaching from a team of teacher trainers predominantly from Georgetown, in September, and again at Easter and in August. In between these courses they received assignments and undertook written work. After the third period they took an examination. In the second year they continued teaching in their rural schools, and received some visits from their tutors. This programme can be considered as highly effective in that of fifty-five students who started the course, forty nine finished, of whom forty-five were successful and the others referred.

56 One of the purposes of conducting the face to face teaching in the region was to use an environment with which the teachers were familar and in which it was hoped that they would stay. In fact, however, cross country travel between hinterland areas is virtually impossible, since most of the routes radiate from the capital. Many of the teachers had to travel to Georgetown and then out again to the centre where the courses were conducted. In future projects, therefore, the vacation courses are likely to be held in Georgetown at the College of Education, where there is resident accommodation for the participants. To some extent this will militate against the aim of giving the teaching within the hinterland environment, as

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will the fact that the two year full-time teacher education course for which these teachers are being prepared will also be held in an urban environment.

Project B

## Teacher Upgrading Programme

57. A distance education programme is currently being prepared for a similar upgrading course aimed at teachers from other regions. The written lesson notes are being vigorously prepared by writing teams in English, Mathematics, Science and Social Studies. The members of the writing teams have been trained in special training courses conducted by an Unesco expert, and by the Lecturer in charge of the Distance Education Division of the Institute of Adult and Continuing Education. Two writing workshops, both of two weeks duration, of which the first was residential, have been completed. The second was taking place during the present Commonwealth of Learning consultancy and discussions were held with the participants. The first year notes have now been completed, and for the most part have been to the readers and revised in the light of their comments. They are now awaiting illustration and printing, and it is hoped that the second year lessons will be written during the next twelve months. Cassettes will be prepared to accompany each of the lessons, especially those in English. It is intended that there should be face to face tuition at a central point for one week at the beginning of the course, one week at the end of the first and second terms and for two weeks at the end of the third term.

58. It is intended that the teaching of the course will begin in January 1990. The responsibility for the units of the course material has been shared between the I.A.C.E, the Cyril Potter College of Education and the National Centre for Educational Resource Development. The administration and student support will be the responsibility of the N.C.E.R.D.

59. The course will be offered first as a pilot in Regions 5 and 6, and a survey has indicated that three hundred and fifty students are likely to be enrolled. This number would of course include a backlog of teachers who had not previously had an opportunity for such in-service education, but owing largely to attrition in the profession it is thought likely that subsequently there would be about fifty teachers a year wanting to enrol in the programme. Some of the regions would be likely to have a substantially higher number of teachers wanting to enrol.

60 The administration is intended to be as follows. There will be two Centres in each Region (one of which will be at the Regional office of the N.C.E.R.D.). In Region 5 the Regional Education Officer will be the Regional Co-ordinator and will be assisted by two Administrative Assistants, one in each centre: each will be assisted by a typist and office assistant. In Region 6 there will be a full time Co-ordinator who will be assisted by administrative assistants etc. on the same pattern. Instructional material will be distributed and assignments collected through the centres. Two part-time tutors are being identified and will be appointed in each Region for each subject, and will be responsible for marking assignments and for providing student support.

61 This is clearly a most ambitious project, which, if successful, will be of great importance for the improvement of education in Guyana. It is not at present clear whether a budget head exists for the payment of the part-time tutors, nor is it entirely clear whether such a major piece of work as offering student support to, say, ninety teachers, can reasonably be undertaken on a part-time basis by each subject tutor. The alternative, however, is to take even more of the best teachers out of classroom work in order to appoint full-time tutors.

Project C

Pre-University Programme in Mathematics and English

62 Both the Ministry of Education and the University are of the opinion that secondary school standards have fallen in recent years and that pupils find it difficult to reach the admission standards which the University requires. The Institute of Adult and Continuing Education is attempting to remedy this by teaching a fourth and fifth year supplementary programme during the school year to pupils of six fortunate schools whose pupils are within reasonably easy reach of the University campus. A pre-entry science course is also held each year at Turkeyen on the results of which entry into courses in the Faculty of Natural Science partly depends.

63 While important policy issues need to be studied relating to the preparation for and standards of entry to the Faculty of Natural Sciences, and indeed relating to its first year syllabus, it is clear that not enough students are available to enter the Faculty, and that the same is true of

courses in the Faculty of Education, and other important courses. There is therefore a strong motivation to increase the cadre of qualified persons for entry into the University.

64 A pool of potential entrants undoubtedly exists. There are many people, a high proportion of them serving teachers, who narrowly failed to satisfy University entry requirements, and who, though they have four or five O levels, do not have sufficiently high grades to allow them to enter the University. The main deficiencies in these potential students is in Mathematics, Science and English.

65 The Distance Learning Division of the Faculty of Education is therefore planning to offer pre-University upgrading programmes in Mathematics and English. Writers for each subject have now been identified and the writing of the English programme has been completed, though not yet typed. Work on a Mathematics programme is at an advanced stage but has not yet been completed.

66 It is anticipated that at least one hundred students will wish to take the first pilot programme. Unless either external funding is possible or a subsidy to the students is made available, it is uncertain how many of these could afford to pay fees at a realistic level which will cover costs. There is also a question about the syllabus of the mathematics programme. The staff of the Faculty of Sciences would like the syllabus to go considerably beyond the level of the C.X.C. and GCE and prepare students for the University entrance examination normally given on the conclusion of the pre-entry course. An alternative strategy would be to set the course at

C.X.C. and GCE level and to permit those successful in a special test to enter the Pre-Entry Course. The test could possibly be set and marked by the Test Development Unit of the National Centre for Educational Resource Development.

Other Distance Education Activities

67 There are a number of distance education activities currently being conducted in Guyana, especially in educational broadcasting. For example, the Ministry of Education offers a five minute programme for farmers each morning, which is said to be very popular. Similarly, the Broadcasting to Schools Unit of the N.C.E.R.D. broadcasts for half an hour each morning on G.B.C., and there is also an evening programme addressed to teachers. (Appendix 2) The I.A.C.E. also offers a weekly magazine programme entitled 'University on the Air' which has a wide audience and is prepared by a full-time member of staff of the Institute.

B Distance Education Resources in Guyana

68 There are many distance educational resources in Guyana, which are beginning to be exploited. The human resources are mainly concentrated in the Institute of Adult Education, the Cyril Potter College of Education and the National Centre for Educational Resource Development of the Ministry of Education.

69 The leaders in each of the institutions are Ms Lynette Anderson of the I.A.C.E., Ms. Millicent Waterman of the College of Education and Ms. Meighan Duke of the N.C.E.R.D.

70 The main focus of this Distance Education capacity has been the University's Institute of Adult and Continuing Education, and in particular its Distance Learning Division (also called variously in different documents, the Distance Teaching Division and the Distance Education Division). This Division is guided by an Advisory Board which is intended (a) to provide a format for major interest groups to improve on the planning and implementation of distance education programmes conducted by the I.A.C.E and (b) to allow the administrators of the distance education programme to benefit from the collective knowledge of specialists in various disciplines. The membership of the Committee consists of representatives of the Faculties of the University and of the I.A.C.E., together with representatives of the Ministry and other agencies which are thought to be most closely concerned with distance education provision. The Committee is Chaired by the Vice-Chancellor. (See Appendices 3 & 4). Only two meetings of the Committee have so far been held, the second during the Commonwealth of Learning Consultant's visit. While attendance from University experts at these meetings has been good, attendance from those representing outside bodies has been disappointing.

71 The Distance Learning Division is a very small one and currently has only two professional staff supported by a single typist. The two professionals are fortunately well-prepared for their tasks.

One of them works full-time on the preparation of the "University on the Air" radio programme. The senior of the two is the only person who is concerned with the development of other forms of distance education. It is clear that, while plainly a good starting point for future development, the present staff is strained to breaking point and would be quite unable to plan and execute further projects.

72 A number of training workshops for writers have already been held and a four-year series of annual ten-day integrated seminars is to be started on October 22nd on the general theme 'Distance Education: Nature, Function and Methodologies'. These significant workshops are being organised through the Programme of co-operation of Amazonia Universities (UNAMAZ) of which the University is a member, under the auspices of UNESCO. The entire series of workshops is expected to be held in Guyana, and should be a most valuable form for the exchange of experience and the training of participants in this relatively new area. (Appendix 5).

73 A series of training seminars for course writers has already been held under the auspices of the IACE, and the work of producing the course modules is well advanced, as has already been indicated. It is in this area that a serious bottleneck is developing. The teaching profession has been critically depleted in recent years by emigration and transfer to other professions. This has the dual disadvantage that:

a) Existing writing teams may themselves be depleted with the consequent necessity of continual training in order to maintain existing strength, and,

b) that to find excellent and experienced secondary school teachers and teacher educators is proving increasingly difficult. This shortage already shows signs of becoming critical.

74 Nevertheless one must conclude that an impressive amount has already been achieved in view of the difficulties outlined above and the persistent economic problems which the nation is currently experiencing.

Other Human Resources

75 Some other organisations have experience of non-formal extension methods which could be harnessed to the provision of distance education. These include the Ministries of Education and Health, the IACE, which in turn maintains contact with a range of organizations and individuals concerned with adult and continuing education, the Guyana Management Institute, which trains Managers for industry and commerce, industrial and commercial enterprises such as Guymines, and those who work in the various infrastructural organisations outlined below.

76 Some Faculty members at the University are also giving thought to extension activities, which in some cases are well advanced. For example, the Faculty of Health Services has already developed with UNESCO assistance a series of teaching units on breast feeding, employing specially pre-recorded audio cassettes, which are used as the basis of structured discussions conducted at health clinics: the tapes have already been prepared, and pilot work shows that they are particularly successful in rural areas, though possibly less effective in more sophisticated urban areas. The Faculty of Economic and Social Studies is planning a series of workshops for businessmen on the use of computers in business management and administration, a programme which, if enough finance can be found, might well be developed as one or more distance education packages. The Faculty of Agriculture has given some thought to the possibility of providing distance education packages on specific topics, such as the preparation of effective poultry feed, etc., for small farms.

C Infrastructural Resources for Distance Education in Guyana

77 N.C.E.R.D. The National Centre for Educational Resource Development is organized into five co-ordinated operational units. These are;

1 The Curriculum Development Unit

2. The Learning Resource Development Unit

3. The Test Development Unit

4) The Broadcasts to Schools Unit

5) The Materials Production Unit.

The former Science and Maths Unit has now been subsumed under the Curriculum Development Unit. All of these units contain resources which can be applied to distance education projects.

78 It is the intention of the Ministry of Education that branches of the N.C.E.R.D. shall be established in each regional headquarters; these will serve as teachers' centres and nuclei for the effective extension of N.C.E.R.D. facilities and functions into the Regions. Regional Educational Officers have been charged with the responsibility of identifying suitable premises for these centres. This must be regarded as potentially a development of great importance for the upgrading of the schools.

Printing

79 The University of Guyana does not have a Central Printing Unit; however, it is likely to obtain offset litho printing facilities under the I.D.B. project. Such a unit is long overdue and would have considerable advantages for University distance education work.

80 The Materials Production Unit of N.C.E.R.D. is already producing textbooks for use in schools, and already has some capacity, which may be enhanced by the I.D.B. Primary Sector Improvement Project,

which could be used for distance education materials. In addition there are some commercial printers and publishers available for printing at commercial rates.

Broadcasting - Sound

81 The Guyana Broadcasting Company broadcasts two services, and already offers certain educational programmes. (See 67). A limited service of programmes to schools is broadcast each morning in term time, and there is an evening broadcast for teachers. The G.B.C. also broadcasts a University of Guyana series called 'University on the Air' for half an hour each week. The materials for these broadcasts are supplied by the N.C.E.R.D. Broadcasts to Schools Unit and the I.A.C.E. respectively.

82 Unfortunately, broadcast reception is not effective over the whole country. The main transmission is on medium wave: while these broadcasts can be received in many of the coastal areas, and the Linden area, the transmissions are not of sufficient strength to penetrate satisfactorily to the hinterland regions. There is also some F.M. broadcasting in main centres of population and there are plans for community broadcasts in the regions through F.M. transmitters in the various regional centres. A programme is also being prepared for short-wave transmission, but there is at present no short-wave transmission facility.

83 The Centre for Community Studies of the University of Guyana also has a so-called "Broadcasting Studio". This has a sophisticated control desk, two studio quality cassette and reel to reel recorders and radio tuner, and two good quality domestic record decks. There is one studio equipped with high quality microphones and provision for a second studio. The suite is therefore capable of producing recordings of broadcasting quality, but currently has no transmission facilities.

84 Plans have already been prepared for a 'Radio Turkeyen' station transmitting from the Broadcasting Studio, serviced partly by the students of communication at the University. For some periods each day the station would transmit programmes originated by the University, and for the remainder of the time it could be locked into the existing G.B.C. transmissions. No transmission facilities currently exist on any waveband; the Director of the Centre is hoping to obtain such facilities. It is not clear whether medium, F.M. or short wave frequencies are available for allocation to the Centre.

85 It is not known precisely what proportion of households own radio receivers in working order. Informed opinion seems to be that the vast majority of existing radios do not have either F.M. or short wave bands. Nevertheless, we may assume that if short wave transmission started, all new radios on sale in the country would tend to have S.W. potential, and the availability would gradually spread. While many primary schools possess a radio, there has been no recent survey to ascertain their condition. Batteries do not seem to be a major expense, though their ready availability in the more remote parts of the country is not known.

Broadcasting - Television

86 Two private companies operate television stations in Guyana. For one of them a de-scrambler is necessary, which is hired from the company concerned. The other programme is available free of charge. Both companies rely on advertising revenue for the sponsoring of transmissions. A little locally produced material is transmitted, but this is supplied ready for transmission. The rest of the programme material is derived from satellite sources.

87 In Linden Guymines operates a television service and with minimal resources produces a variety of programmes to meet the interests of a community which is virtually entirely engaged in mining operations. The remainder of the programmes is for the most part derived from satellites.

88 A reliable estimate of the number of television sets in Georgetown is not available: it is estimated that there are between 8,000 and 10,000 sets in Linden. The Linden service would be able to transmit educational videos, and no doubt the same would be true of the Georgetown commercial stations if sponsors were found.

89 There is uncertainty about the number of video cassette recorders in private use. There is a small number of outlets for video hire, but the general opinion was that the ownership of VCRs is not widespread. Nevertheless, some agencies use VCRs with portable generators to take information services to isolated communities with some measure of success, and this is a technique which could well be of value for distance education.

90 Some good video production capacity is available at the National Academy of Performing Arts, which makes many of the advertisements appearing on television. The Vieipe station also has some production capacity.

## VI A Distance Education Policy for Guyana

### Specific Needs

91 An earlier section of this report indicates that Guyana is a country ideally suited to distance education. It also drew attention to a number of limiting factors.

92 The country is suffering from an acute shortage of educational manpower at all levels and in all areas of the nation's life and work. The Prime Minister has established a task force to identify the more acute manpower needs. This task force, though constituted, has not yet met; no doubt in due course it will produce a statement of needs which will not only guide future distance education policy, but will be of great value to all the agencies which are attempting to assist the Government's Economic Recovery Programme. A full-scale manpower review is expected to be undertaken by a visiting team of manpower specialists in 1990.

93 Nevertheless it is interesting to observe the virtually universal agreement on two closely related national needs to which all informants draw attention:

94. 1. The first of these is the acute shortage of qualified teachers. As has already been indicated, the teaching force has been gravely depleted in recent years. Many of the best teachers have emigrated or have left the teaching profession for other more rewarding occupations. There is still a dedicated group of enthusiastic and experienced teachers, but the size is totally inadequate to meet the minimum teaching requirements. The work force of trained graduate teachers is concentrated almost entirely in forms 4 and 5 and in the schools which offer A Level courses. The first three secondary forms are staffed in large part by former primary school teachers, many of whom are inadequate for their new roles. These teachers in turn have been replaced by primary school teachers who are in many cases untrained; many of them do not have the minimum education which they need in order to enter the College of Education or the University. In some regions fifty per cent or more of the teachers are in this category, and there is no sign of any improvement in the situation.

95 The Government is currently in the final stages of preparing an interim policy statement on education, which will give guidelines for future educational development. Present indications are that this will be a well-conceived and influential document. It is certainly clear that important policy decisions will need to be made. Amongst these are

96. a. The feasibility, in present economic conditions, of upgrading the remuneration of teachers and especially those trained and graduate teachers who are the core of the profession, in the hope of preventing further losses and stabilising the present situation so that a gradual improvement of the profession might be effected.

97.b. A review of the existing secondary examination system. The existing system of the Secondary School Proficiency Exam after year three, the Fourth Form Assessment Test after Year 4, and the C.X.C./GCE at Year 5 may be thought to place an excessive emphasis on examinations, to put a strain on the examinations system and resources and to leave an inadequate time for concentrating on preparation for the C.X.C./GCE.

98.c. There is reason to question whether the retention of sixth forms, which prepare the pupils to go to Universities overseas is the best use of the scarce resource of graduate teachers, especially in circumstances where the volatility of the teaching profession leads to a low level of success.

99 2 The second national educational concern which received universal mention was the deterioration in the quality of the education provided at all levels, largely as a result of the weaknesses of the teaching profession already referred to. The cohort qualified to enter the College of Education and the University is inadequate in number to meet national needs and make adequate use of existing resources, while frequent reference is made to the weaknesses of the students who do enrol on courses in these institutions.

Meeting the needs

100 There are two essential factors in the provision of a distance education programme in a country which has not had previous experience of this mode of education.

101 The first is that the scarce resources of skilled distance educators should not be strained. As already indicated only a small cadre of such people exists at present. They must not attempt more than they can achieve.

102 The second is that the programmes which are initiated should succeed. It would do immense damage to the cause of distance education in Guyana if the first distance education programmes failed. This would set back, possibly for many years, the cause of what could be a vitally important and effective educational technique.

103 It is, of course very tempting to embark on a widespread system of distance education covering many aspects of national life, and extending at an early stage to every Region. No one can doubt that the nation needs such a programme of activities. Nevertheless, in view of the considerations mentioned above, it is maintained that to implement a carefully planned programme starting from a narrow base is the best strategy to adopt.

104. The following projects are therefore suggested for careful consideration. It is believed that each of them might be helped considerably by international co-operation through the agency of the Commonwealth of Learning. They are based on the principle of strengthening those activities which have already been begun, and building on known strengths.

Project 1.

Foundation Course in Teacher Education

105 The purpose of this project, which has already been started, is to bring serving untrained teachers to a level of knowledge in the basic subjects which would enable them to enter the Cyril Potter College of Education for a normal teacher training programme. It would have an immediately beneficial effect in enhancing the teaching of untrained staff by increasing their knowledge of the subject areas which they are teaching.

If this programme is successful it might be feasible to move on to the provision of a full teacher training programme using the medium of distance education.

106 This project, and the progress which has already been made has been described above (Paragraphs 57–61). The next stages will be

1. the completion of the writing and editing of the remaining modules

2 the illustration and printing of the modules

3. liaison with the two pilot regions to make sure that the regional offices are suitable for their purpose and that trained part-time tutors are appointed in each of the four basic subjects in each region.

4. the establishment of a database for the registration of students and the recording of their progress. Such recording can be undertaken by manual methods but could be effected more efficiently and economically by a computer database.

5. the establishment of a complete record in the N.C.E.R.D. covering all students in all the regions.

6. the appointment of an administrative officer, a secretary and an office assistant in each region.

7. the writing of scripts for audio cassettes, the recording and duplicating of cassettes and the purchase of cassette recorders for issue to students. In view of the present economic situation and the level of teachers' salaries it is not thought practicable to expect students on this programme to buy their own cassette recorders.

107 The main outside input needed for this programme is financial, and resources must be found as a matter of urgency if the programme is to go ahead as planned.

1. So far the course writers have been paid virtually nothing for their work. Unless a budget is provided for this, they cannot be expected to continue.

2. Funds will need to be found for two more one week residential writing workshops.

3. Payment will need to be made to the tutors for the marking of the assignments and other student support.

4. Travel costs will be needed for liaison with the centres.

5. Computers should be bought for N.C.E.R.D. and for each of the regional centres.

6. An adequate stock of cassette recorders and cassettes must be provided

7. A multiple tape copier must be provided.

8. Paper, which is in very short supply, must be provided.

9. Salaries will need to be found for the staff indicated at each regional centre and office furniture will be needed for them.

10. If possible, a one week period of face-to-face teaching using course materials should be provided in convenient centres for new students.

108 Several of these items are start-up costs and will not be repeated. There will remain a sizeable recurrent budget for student support and administration: in costs related to student support there will be virtually no economics of scale, since assignments must be marked for each additional student joining the scheme. Preliminary calculations indicate, however, that the per capita costs would be relatively small compared with the normal costs of education at this level.

109 It is intended to start with two regions and add two or three more regions each year until the whole country has been covered. It is anticipated, however, that after the initial 'backlog' has been enrolled in large first-year entries, there will continue to be substantial annual entries as new teachers join the profession.

110 It would be invaluable if the Commonwealth of Learning could identify a donor agency which might cover start up costs and revenue costs for, say, a three year period, with reducing annual grants for a further two years, until the Government is able to assume the full costs of the programme.

Project II

University Pre-Entry Course

111 This project, operated by the I.A.C.E., with the purpose of enlarging the cadre of potential entrants to the University has already been described (Paragraphs 62-66). Its target population is those students who have attempted C.X.C./GCE but who have not achieved a sufficient level to enable them to enter the University. The project is intended not only to repair the subject deficiencies of the students in English and Mathematics, but also to introduce habits of disciplined study which will be of great benefit when University studies are commenced. It should be noted that these students for whom these courses prove too difficult can be asked first to complete satisfactorily the English and Mathematics courses in the Teacher Education Programme (Project 1).

112 Here, too, the main contribution from outside resources would be a financial one.

1. The writing in both English and Mathematics is going well, but the writers have not been adequately compensated for their work.

2. The tutors who will be marking assignments and giving other forms of student support will need to be paid.

3. Stocks of paper will be needed.

4. A computer will need to be provided for student registration and record keeping.

5. Additional administration and secretarial staff will need to be provided at the I.A.C.E.

113 It is suggested that the Commonwealth of Learning should attempt to identify a donor to support the start-up costs and full initial revenue costs of this project for a period of three years, with reducing support in the following two years.

114 In connection with this project a further survey will need to be made of the potential demand throughout the regions. It is intended to decentralise this programme using the same organisation for regional administration as has been provided for Project I.

115 The University will need to make two important decisions relating to this project.

116 1. The first concerns the nature of the Mathematics syllabus. As at present drafted, this seems to take the student considerably beyond the scope of the normal form 5 examinations. It should be anticipated that the student who succeeds in the programme and who is admitted to the University should have an opportunity of attending the University Pre-Entry course side by side with entrants joining the University direct from school.

117 2. The second relates to the type of examination and the level of pass for entry into the University by successful completers of the programme. This selection test should clearly cover only the material taught in the distance education programme. If required, the test could be compiled and administered by the Test Development Unit of the N.C.E.R.D.

118 A working plan and a draft budget have been provided by the I.A.C.E. for this project. (Appendix 6)

Project III

Enlargement of Distance Learning Capacity of I.A.C.E.

119 The work of the University Institute of Adult and Continuing Education in the field of Distance Education has already been described. (Paragraphs 62 to 73). The most important expertise in the field of distance education in Guyana already resides in the I.A.C.E., and it is this expertise which must be relied on when moving outside the specific and important concerns of the Ministry of Education.

120 It is therefore recommended that more effective provision should be made by increasing the present staff. The minimum immediate requirements would seem to be one additional member of staff, an administrative officer, and one additional secretary-typist. A vehicle should be provided which would meet the needs of Distance Education in all its manifestations, including Projects 1 & 2 above, and which would also be available to provide some capacity for the other needs of the I.A.C.E.

121 The contribution made by the Commonwealth of Learning should be to locate a donor to make resources available for an initial three year period, and also to provide training for the new lecturer and administrator. This would be likely to involve periods of hands-on experience in overseas institutes covering a similar range of concerns.

Project IV

Provision of Video Programmes

122 In designing programmes for Guyana an emphasis has been laid on the use of appropriate technology. For the next few years, all programmes should be self-standing with print only, but with audio enrichment available for most participants. A further level of enrichment could be provided with video programmes.

123 It is suggested that the Commonwealth of Learning should ascertain what material is already available in other countries, suitable for use in the Caribbean area, and arrange these in a number of series which could be used both for transmission on television services, and also for use in study centres through a video-cassette system. It is understood, for example, that a series of videos dealing with the teaching of reading has been produced and transmitted by the University of the West Indies. It should be possible, by consultation, to find other series of videos on the main pedagogical areas which could be made available to the countries which need them. These should include not only topics of direct subject matter content for the enhancement of foundation studies teaching, but also issues of pedagogical concern at both primary and secondary level. In time, certain of these series could be integrated in the Projects already referred to, while others would be used for television transmission in programmes designed for teachers.

124 While this project is one which would have wide application and is no doubt already being pursued by the Commonwealth of Learning, its application in Guyana would be immediately beneficial.

125 In parentheses, it might be observed that a series of videos concerned with University teaching in developing country Universities would be of particular advantage in stimulating the creation of, or assisting in the progress of staff development units. It is suggested that the Commonwealth of Learning should commission the preparation of an initial series of videos relating to teaching and administration in Higher Education.

Project V

Enhancement of Hinterland Teacher Education Project

126 In the earlier description of this project (Paragraphs 55 and 56) it was indicated that assignments were given to students in the periods between the full-time courses held in vacations. It would benefit the programme greatly if distance education lessons could be provided in place of these assignments. These could be produced for the cost of the equivalent of two full-time writers for one year, supported by the decentralised student support system already recommended under Project I.

127 This would be a project which would have very beneficial effects for minimum expenditure.

Project IV

Expansion of Facilities at the University Centre for Communication Studies

128 A description has been given above of the resources of the University Centre for Communication Studies (see Paragraphs 83 and 84) and it was mentioned that the establishment of a radio transmission facility would be of particular benefit for the distance education programme, but would also be of value for the general public and especially teachers.

129 It is understood that a UNESCO expert is likely to visit the Centre in January 1990 to consider the possibility of establishing a T.V. Studio and radio transmission facilities.

130 It is recommended that the Commonwealth of Learning should liaise with UNESCO and, either separately or jointly, provide a visiting consultant to assess the feasibility, cost and advantages of providing the Centre with radio transmission facilities. It is suggested that if such provision is made, a co-ordinating committee for the Centre should be established to ensure that the distance and continuing education interests secure an appropriate amount of air time, and are not sacrificed to the needs of University students of communication.

Project VII

Access of UWIDIET Transmissions

131 The University of the West Indies has established a sophisticated distance education system involving the use of satellite transmission, which has an interactive capacity. It is not suggested that Guyana should become a full member of such an advanced consortium at the present time, since it is regarded as unlikely that the cost of engaging in the enterprise would be fully cost-effective. Nevertheless, if it were possible to access satellite transmissions and record selected programmes, it would be possible to build up a library of appropriate teaching materials at marginal costs.

132 It is recommended that a consultant should be made available (possibly in conjunction with the evaluation of Project VI) to consider the cost of providing and operating such a system together with copyright and other issues.

Project VIII

Distance Education for small entrepeneurs.

133 It is current Government policy to encourage the growth of small scale businesses. One of the main obstacles to the growth of such developments is the difficulty of gaining access to some of the necessary basic skills. Short learning packages, in simple book keeping and accounts, the legal requirements for small businesses, simple management skills etc. would be of great potential value.

134 It is therefore recommended that an appropriate consultant should consider the situation in consultation with the Guyana Management Institute, the Consultative Association of Guyanese Industry, and appropriate leaders of industry, to consider the feasibility of such a project and to assess the contribution which industry and commerce might make to its establishment. The projected plan of the Faculty of Social Science of the University for the provision of computer skills for managers should be included in the scope of this consultancy. (See Paragraphs 75 and 76)

Project XI

Distance Education in Basic Agriculture

135 Mention has already been made (Paragraph 76) of the sound ideas of the University Faculty of Agriculture for developing a series of distance learning packages for the use of small farmers. Such a programme would be immediately beneficial, but cannot at present be implemented because of a lack of staff due to the absence overseas of staff members for staff development purposes.

136 It is recommended that a consultant be appointed to conduct a detailed feasibility study of establishing a project in basic agriculture, and the possibility of providing temporary specialised staff to initiate such a programme in consultation with the Ministry of Agriculture and the Guyana School of Agriculture. The same consultant should consider whether there are any training needs of the forestry and fisheries industry which might be met by these means, in consultation with the Guyana Natural Resources Industry.

Project X

Health Services

137 Mention has been made above of the pilot project on breast feeding which might be adapted for distance education use. (Paragraph 76). The management of health services at regional, district and local level is another area in which elementary training might be given by distance education packages.

138 It is recommended that a consultant should be appointed to consider the feasibility of establishing a series of distance education packages in health sciences in consultation with the Ministry of Health and with the University Faculty of Health Sciences.

Note of Extension I

139 As already mentioned, the main national resource in distance education at present resides in the Distance Learning Division of the Institute of Adult and Continuing Education. It is recommended that any of the above projects which may be selected for implementation should be carried out in association with, and under the aegis of, this Division. It is important that the resources and thrust of distance education in Guyana should not be dissipated by their distribution over a wide range of agencies. This would inevitably include some supplementation of the resources of the Division from time to time. Additional accommodation will also be needed. It is understood that a request has already been made for the use of the currently vacant building adjacent to the I.A.C.E. for the use of the Distance Education Division and it is recommended that this request should be acceded to if possible.

Note of Extension II

140 Relations between the I.A.C.E, the N.C.E.R.D. and the C.P.C.E. are at present extremely cordial and co-operative. It is essential that this should remain the case for all agencies engaged in distance education.

Formal arrangements to encourage this are already in place as a result of the creation of the Distance Education Committee of the University of Guyana, and it is hoped that more representative attendance might ensure its greater success.

141 It may also be desirable, however, to create a Distance Education Professional Committee, comprising all those agencies, at present three in number, which are actually engaged in the implementation of distance education projects to ensure close co-ordination and an equitable sharing of resources. It is suggested that this might be a sub-committee of the Distance Education Advisory Committee to which it should regularly report.

Note of Extension III

142 It is important to take account of the principle of dual utility in distance education planning. For example, a printing press provided for distance education could be used also for printing other University and N.C.E.R.D. publications. Kits, teaching notes and specially prepared practice material could be made available to teachers for use in school classes, and also made available to other countries by the Commonwealthg of Learning. Audio and video cassettes intended primarily for distance education can be broadcast to the general public through public broadcast facilities. Transport provided to enable materials to be taken to the various centres could be used by the I.A.C.E. for other decentralised work, etc.

Conclusion

143 Distance Education has a great potential for the development of Adult and Continuing education in Guyana. Ten projects have been suggested as being those which are likely to have the greatest initial impact with the lowest cost. These are by no means exhaustive, since the educational methodology can be applied to virtually every aspect of the nation's life.

144 There is no doubt, however, that the most import projects are Projects I, II and III. That these projects should be successful is essential if distance education is to be a credible educational methodology in Guyana. It is therefore recommended that these should be given the highest degree of priority.

# A P P E N D I X

APPENDIX ONE

# Educational Policy Paper Under Discussion

DISCUSSION of an educational policy paper, containing what sources say are sweeping recommendations for revamping the system here is continuing, but the Education Ministry says it is not ready to make its contents public.

The paper has, however, been the subject of much debate at Cabinet and among senior education officials, who did an indepth study at a Kuru Kuru retreat recently.

The paper has to be passed through Parliament, but the house is in recess until October,' so nothing really would happen until then," said a Ministry official.

STARROCK NEWS 19.8.99

APPENDIX 2

BROADCASTS TO SCHOOLS

WALL TIME TABLE

EASTER TERM, 1986

TRANSMISSION: CHANNEL II - 13:30-14:00 hrs.

| | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 | WEEK 6 | WEEK 7 | WEEK 8 | WEEK 9 |
|---|---|---|---|---|---|---|---|---|---|
| SERIES | JANUARY 20 | JANUARY 27 | FEBRUARY 3 | FEBRUARY 10 | FEBRUARY 17 | FEBRUARY 24 | MARCH 3 | MARCH 10 | MARCH 17 |
| MONDAY (13.30 - 14.00 hrs) ENGLISH BY RADIO | INTRODUCTION - WHAT IS COMPOSITION? | EXAMINING DIFFERENT KINDS OF TOPICS, ADJECTIVES- DESCRIBING PEOPLE, SCENES. | ORGANISING AND SEQUENCING OF IDEAS, TENSE - DISCUSSING THE SPECIFIC TENSE TO BE USED. | POETRY APPRECIA- TION. | KINDS OF WRITING, IDENTIFY- ING DESCRIPTIVE WORDS. | PLANNING DESCRIPTIVE WRITING, PRACTICE - PRESENT CONTINUOUS TENSE. | PLANNING NARRATIVE WRITING, LETTER WRITING - USING PRESENT CONTINUOUS TENSE. | POETRY EVALUATION, QUESTIONS AND ANSWERS IN PRESENT CONTINUOUS TENSE. | STORY EVALUATION. |
| | JANUARY 21 | JANUARY 28 | FEBRUARY 4 | FEBRUARY 11 | FEBRUARY 18 | FEBRUARY 25 | MARCH 4 | MARCH 11 | MARCH 18 |
| TUESDAY (13.30 - 13.45 hrs) SOCIAL STUDIES | HOW PEOPLE LIVE IN EACH NATURAL REGION OF GUYANA. | RESOURCES OF GUYANA. | THE SUGAR INDUSTRY. | THE COCONUT INDUSTRY. | THE TIMBER INDUSTRY. | THE BAUXITE INDUSTRY. | THE RICE INDUSTRY | THE FISHING INDUSTRY | GOVERNMENT'S ROLE IN AGRICULTURE AND INDUSTRY. |
| (13.45 - 14.00 hrs) RHYTHM CONNECTIONS | PHRASING IN MUSIC | THE STORY OF A COMPOSER | SYNCOPATION | GEORGE NOEL'S MUSIC | NATIONAL MUSIC | THE BREATHING IN MUSIC. | CONTINUING TO LEARN THE SONG 'I SING OF THE SEA' | HYMN FOR GUYANA'S CHILDREN. | END-OF-TERM CHORAL PERFORMANCE. |

APPENDIX 2 (a)





BEST COPY AVAILABLE

EASTER TERM, 1986 (CONT'D)

| SERIES | JANUARY 24 | JANUARY 31 | FEBRUARY 7 | FEBRUARY 14 | FEBRUARY 21 | FEBRUARY 28 | MARCH 7 | MARCH 14 | MARCH 21 |
|---|---|---|---|---|---|---|---|---|---|
| FRIDAY (13.30 - 13.45 hrs) OUR COUNTRY, OUR HOME. | SLAVE (Calypso) | BARTICA GROVE (Folk Song) and REUBEN (Folk Song) | SANCHA (Folk Song) and TRAIN SONG (Folk Song). | INTERDEPENDENCE (Calypso) | DIS TIME NA LANG TIME (Folk Song) | BERBICE GAL CHANTEY (Folk Song) RAINY WEDDER (Folk Song). | DAN IS THE MAN (Calypso) | WHERE ARE YOUR HEROES CARIBBEAN (Calypso). | NOT A BLADE OF GRASS (Calypso). |
| LET'S SING A NEW SONG (13.45 - 14.00 hrs) | THE GENEROUS MUSICIANS. | SONS OF GUYANA ARISE, THE GENEROUS MUSICIANS. | MY NATIVE LAND, SONS OF GUYANA ARISE. | THE GOLDEN ARROW HEAD, MY NATIVE LAND. | THE GOLDEN ARROW HEAD, MY NATIVE LAND, SONS OF GUYANA ARISE. | HOW THE ACOURI LOST HIS TAIL, THE GENEROUS MUSICIANS. | THE GOLDEN ARROW HEAD, HOW THE ACOURI LOST HIS TAIL. | MY NATIVE LAND, SONS OF GUYANA ARISE, HOW THE ACOURI LOST HIS TAIL. | END-OF-TERM CONCERT. |

APPENDIX 2 (b)

APPENDIX 3

UNIVERSITY OF GUYANA
INSTITUTE OF ADULT AND CONTINUING EDUCATION

## TERMS OF REFERENCE OF THE UNIVERSITY OF GUYANA DISTANCE EDUCATION ADVISORY COMMITTEE

(a) provide a forum for major interest groups to impact on the planning and implementation of distance education programmes conducted by this institution.

(b) allow the administrators of the university distance education programme to benefit from the collective knowledge of specialists in various disciplines.

The task of the committee will be to:

(1) (i) shape university policy on distance education by

(a) reacting to policy proposals put up by the Distance Teaching Division

(b) reviewing policies in response to changes in national educational goals, needs and conditions.

(2) continually review the developmental goals of the IACE Distance Teaching Division.

(3) bring to the attention of course planners national educational needs which might be met through distance education.

(4) oversee the establishment of systems necessary to the conduct of courses via distance education.

(5) review and make recommendations on the basis of information derived from the evaluation of course material and programme administration.

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## APPENDIX 4

### FULL MEMBERSHIP OF THE DISTANCE EDUCATION ADVISORY COMMITTEE OF THE UNIVERSITY OF GUYANA

| | | | |
|---|---|---|---|
| 1. | Registrar, U.G. | - | Cde George Cave |
| 2. | Director, IACE | - | Cde Samuel Small |
| 3. | Academic Staff of Distance) Teaching Division | - | Cde Lynette Anderson<br>Cde Rosamunde Addo |
| 4. | Faculty of Education | - | Dr Alan Persico |
| 5. | Faculty of Agriculture | - | Dr P.N. Vine |
| 6. | Faculty of Technology | - | Cde Lennox Hernandez |
| 7. | Faculty of Arts | - | Cde John Rollins |
| 8. | Faculty of Natural Sciences | - | Ms Wallis Best |
| 9. | Faculty of Social Sciences | - | Dr Victor Forsythe |
| 10. | Ministry of Education | - | Cde Meighan Duke |
| 11. | Ministry of Agriculture | - | Cde John Clowes |
| 12. | Guyana Agency for Health Sciences, Environment and Food Policy | - | Cde Muntaz Majeed |
| 13. | Guyana Public Communication Agency | - | Cde G.E. Chukuma-Harding |
| 14. | Guyana Broadcasting Corporation | - | Cde Ron Robinson |
| 15. | Guyana National Newspaper Ltd. | - | Cde Raschid Osman |
| 16. | Women's Affairs Bureau | - | Ms Hazel Halley |
| 17. | The Georgetown Chamber of Commerce & Industry | - | Cde D.A. Dumont |
| 18. | Trades Union Congress | - | Cde Richard Persico |
| 19. | Adult Education Association | - | Cde Newton Profitt |
| 20. | Guyana Visual Production Centre | - | Cde Frank Pilgrim |

The Chairman of the Committee will be the Director of IACE, except when the Vice-Chancellor is present; on which occasion, the Vice-Chancellor shall be Chairman.

APPENDIX 5

Association of Amazonian Universities
UNAMAZ

United Nations Scientific and Cultural Organisation
UNESCO

UNIVERSITY OF GUYANA
(UG)

# DISTANCE EDUCATION I
# NATURE, FUNCTIONS AND METHODOLOGIES
# (DENFUM)

TIME FRAME: October 23 - November 3, 1989

LOCATION: Georgetown, Guyana

A workshop offered through the Programme of Co-operation of Amazonian Universities under the auspices of the United Nations Scientific and Cultural Organisation (UNESCO)

The Institute of Adult and Continuing Education
(IACE)
UNIVERSITY OF GUYANA

## REGISTRATION

Sunday, October 22 - 16:00 hours
Bidco Training Centre
Queenstown

Monday, October 23 - 08:00 hours
Savannah Suite
Guyana Pegasus Hotel
Kingston

* * * * * * * * *

MONDAY, OCTOBER 23, 1989
10:30 - 12:00 hours

LEAD PAPER: THE EMERGENCE OF DISTANCE EDUCATION: A GLOBAL PERSPECTIVE

UNESCO Expert

L U N C H
(12:00 - 14:00 hrs)

WORKSHOPS
(14:00 - 15:30 hrs)

Distance Teaching in Tertiary Education

Distance Teaching for Schools

Non-formal Education Through Distance Teaching

Distance Teaching and Informal Education

B R E A K
(15:30 - 15:45 hrs)

RAPPORTEURS' REPORTS
(15:45 - 17:00 hrs)

TUESDAY, OCTOBER 24, 1989
09:00 - 10:45 hours

THEME: DISTANCE EDUCATION IN AMAZONIA
(Case Studies)

Presentations will illustrate the experiences of regional governments/ institutions in planning and executing distance education programmes.

| COUNTRY | PRESENTER | TITLE |
|---|---|---|
| BOLIVIA | | |
| BRAZIL | | |
| COLOMBIA | | |
| ECUADOR | | |

B R E A K
(10:45 - 11:15 hrs)

PLENARY DISCUSSION
(11:15 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

VISIT TO LIBRARY
(14:00 - 15:45 hrs)

B R E A K
(15:45 - 16:00 hrs)

IDENTIFYING INDIVIDUAL PROJECTS
(16:00 - 17:00 hrs)

WEDNESDAY, OCTOBER 25, 1989
09:00 - 10:45 hours

THEME: DISTANCE EDUCATION IN AMAZONIA
(Case Studies)

| COUNTRY | PRESENTER | TITLE |
|---|---|---|
| GUYANA | | |
| PERU | | |
| SURINAME | | |
| VENEZUELA | | |

B R E A K
(10:45 - 11:15 hrs)

PLENARY DISCUSSION
(11:15 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

RAPPORTERU'S SUMMARY OF ISSUES EMERGING
FROM CASE STUDIES
(14:00 - 14:15 hrs)

WORKSHOPS
(Participants will address issues
emerging from case studies)
(14:15 - 15:30 hrs)

B R E A K
(15:30 - 15:45 hrs)

WORKSHOP REPORTS
(15:45 - 17:00 hrs)

THURSDAY, OCTOBER 26, 1989
09:00 - 10:00 hours

THEME: ESTABLISHING AND MANAGING DISTANCE EDUCATION INSTITUTIONS AND PROGRAMMES

FROM NEEDS ASSESSMENT TO GOAL IDENTIFICATION

WORKSHOPS
(10:00 - 10:45 hrs)

B R E A K
(10:45 - 11:15 hrs)

WORKSHOP REPORTS
(11:15 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

ESTABLISHING AND MAINTAINING SUPPORT SYSTEMS
(14:00 - 15:30 hrs)

B R E A K
(15:30 - 15:45 hrs)

INDIVIDUAL PROJECTS
(15:45 - 17:00 hrs)

FRIDAY, OCTOBER 27, 1989
09:00 - 10:15 hours

THEME: ESTABLISHING AND MANAGING DISTANCE EDUCATION INSTITUTIONS AND PROGRAMMES

INITIATING AND SUPERVISING DISTANCE EDUCATION PROGRAMMES

B R E A K
(10:15 - 10:45 hrs)

WORKSHOPS
(10:45 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

FIELD VISITS
(14:00 hrs)

Group I Essequibo

Group II Corentyne

SATURDAY, OCTOBER 28, 1989

FIELD VISITS (Cont'd)

SUNDAY, OCTOBER 29, 1989

F R E E

MONDAY, OCTOBER 30, 1989
09:00 - 10:15 hours

THEME: DEVELOPING COURSE MATERIALS

THE DEVELOPMENTAL PROCESS:
KEY STAGES, ACTIVITIES AND
DOCUMENTS

B R E A K
(10:15 - 10:45 hrs)

PRACTICUM (Small Groups)
(10:45 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

IDENTIFYING CURRICULUM GOALS
(14:00 - 14:30 hrs)

PRACTICUM (Small Groups)
(14:30 - 15:15 hrs)

B R E A K
(15:15 0 15:30 hrs)

TASK ANALYSIS AND SEQUENCING OF INSTRUCTION
(15:30 - 16:15 hrs)

PRACTICUM
(16:15 - 17:00 hrs)

TUESDAY, OCTOBER 31, 1989
09:00 - 09:30 hours

THEME: DEVELOPING COURSE MATERIALS
LEARNING STYLES

Small Group DISCUSSION
(09:30 - 10:15 hrs)

B R E A K
(10:15 - 10:45 hrs)

GROUP REPORTS
(10:45 - 11:15 hrs)

INDIVIDUAL PROJECTS
(11:15 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

Brazilian TEACHING APPROACHES
(14:00 - 14:45 hrs)

Small Group DISCUSSION
(14:45 - 15:30 hrs)

B R E A K
(15:30 - 15:45 hrs)

GROUP REPORTS
(15:45 - 16:15 hrs)

INDIVIDUAL PROJECTS
(16:15 - 17:00 hrs)

WEDNESDAY, NOVEMBER 1, 1989
09:00 - 09:30 hours

THEME: DEVELOPING COURSE MATERIALS
EDUCATIONAL WRITING STYLE

PRACTICUM
(09:35 - 10:15 hrs)

B R E A K
(10:15 - 10:45 hrs)

INDIVIDUAL PROJECTS
(10:45 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

F R E E
(14:00 - 17:00 hrs)

THURSDAY, NOVEMBER 2, 1989
09:00 - 09:30 hours

THEME: DEVELOPING COURSE MATERIALS

MEDIA IN DISTANCE EDUCATION
(09:30 - 10:15 hrs)

B R E A K
(10:15 - 10:45 hrs)

PRODUCTION WORKSHOPS
(10:45 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

PRODUCTION WORKSHOPS
(14:00 - 15:30 hrs)

B R E A K
(15:30 - 15:45 hrs)

PRODUCTION WORKSHOPS
(15:45 0 17:00 hrs)

FRIDAY, NOVEMBER 3, 1989
09:00 - 09:30 hours

THEME: INDIVIDUAL PROJECTS

B R E A K
(10:15 - 10:45 hrs)

INDIVIDUAL PROJECTS
(10:45 - 12:00 hrs)

L U N C H
(12:00 - 14:00 hrs)

RAPPORTEUR'S REPORT
(14:00 - 15:00 hrs)

B R E A K
(15:00 - 15:15 hrs)

PROJECTIONS - 1990 Workshop
(15:15 - 16:15 hrs)

E V A L U A T I O N
(16:15 - 17:00 hrs)

- - * * * * * - -

UNIVERSITY OF GUYANA

INSTITUTE OF ADULT AND CONTINUING EDUCATION

DISTANCE TEACHING DIVISION

YEAR I

PLANNER

1. ACADEMIC PHILOSOPHY

The academic philosophy of the division is to provide training in academic and professional areas of study including teacher education to a larger percentage of the Guyanese adult community. It is intended to reflect the national thrust towards democratization of access to education and, more particularly, the view expressed by Renee Erdas in her work, Establishing an Institution Teaching by Correspondence published by UNESCO in 1975:

> ...all people should have the opportunity of the extent and kind of education their full development requires, and that education should be a continuous process from infancy to the end of life. (p1)

A multi-media approach to programme delivery is envisaged in order to facilitate

- individual study by adults who, for varying reasons, cannot avail themselves of the opportunities offered in the traditional system and/or who can benefit more through independence from the lock-step of institutional teaching. These latter include both quick and slow learners;
- a dual mode of study by students in the intra-mural university;
- effective teaching by a mode which is likely to be, in the long term, cheaper than conventional teaching.

SELECTION OF STUDENTS

Basically, courses will be conducted in response to requests by organisations and community members and educational needs identified by the Division, its advisory bodies and the intra-mural university. This approach will itself influence how students are recruited and selected. However, the following standard methods of recruitment and selection will be primarily employed:

- Courses will be advertised in the media and, where necessary, by posters placed at strategic points. Such advertisement will however only be done after the Division has produced a stock of course material for one year's tuition
- Where no entry requirement exists, students will be selected on a first come, first served basis

/2

- Where there is an academic requirement, the selection process employed by the University of Guyana will be applied. Provision will also be made for entry by mature students.

OPERATIONAL PLANS FOR 1989/1990

Two courses, Pre-University English and Pre-University Mathematics will be offered, commencing November 1989 and January 1990 respectfully.

Pre-University English is a one-year bridging course designed to improve the expression skills of entrants to the University of Guyana. The course derives its form from a survey of the grammatical and structural errors in the writing of pre-university students.

The aim of the course which comprises four modules is to upgrade students' proficiency in English Language in preparation for entering university. It is expected that students who complete this course will demonstrate

1. competency in developing paragraphs which are unified, logically sequenced, coherent and complete
2. an understanding of the formation and use of tenses and verb forms
3. an understanding of, and the ability to apply the rules of concord
4. consistency in the use of pronoun references
5. the ability to use correct prepositions in specific contexts including idiomatic expressions
6. competency in selecting appropriate words to express their ideas
7. understanding of the rules governing spelling
8. the ability to use all punctuation marks correctly.

To satisfy these objectives four modules have been prepared viz

1. Word Functions - This module will incorporate work on descriptive and narrative writing.

/3

2. Improving Skills in Exposition I
3. Improving Skills in Exposition II.
4. Improving Skills in Argumentation.

The second area, Pre-University Mathematics, is a two-year course arising out of the need to redress deficiencies which have resulted in the continued inability of a number of students to cope with the first year Mathematics courses offered by the University. It aims to

1. review some aspects of Secondary School Mathematics
2. help students to develop greater proficiency in Mathematics
3. bridge the gap between Secondary School Mathematics and First Year University Mathematics.

The course will comprise the following ten modules.

1. Algebra
2. Geometry
3. Co-ordinate Geometry
4. Further Algebra
5. Vectors
6. Trigonometry
7. Theoretical Mechanics I
8. Theoretical Mechanics II
9. Theoretical Mechanics III
10. Statistics and Probability

METHODOLOGY

For both programmes, print will be the main medium of instruction. Audio cassettes, radio broadcasts and where necessary video cassettes will be used to present supplementary material.

A direct teaching component will take place during the Christmas, Easter and August vacation periods.

/4

EVALUATION

(a) Assessment of student performance will take the form of

- self tests given on each section of a unit/booklet in order to provide students with immediate feedback on their performance
- assignments at the end of each module. These will be marked by regional course tutors and returned to students through the Institute of Adult and Continuing Education Regional Administrative Centres where grades will be recorded. Spot checks will be made on the accuracy and consistency of grading in addition to the tone of comments and the degree of guidance given to students by markers
- an examination under conditions in keeping with the requirements of the University Examinations Division.

(b) Feedback on the effectiveness of programmes will be sought by

- attaching carefully constructed evaluation sheets to booklets
- requesting tutors to complete forms designed to assess the degree of accessibility of modules
- a student magazine programme which will begin with the expansion of the University on the Air Programme.

SUPPORT SERVICES

At the core of support services will be the existing network of resource persons and Regional Centres established by the Institute of Adult and Continuing Education in Regions 2, 6 and 10. The courses will therefore be targetted to students in these regions until other regional centres have been developed.

A library service between the Turkeyen Campus and the Regional Centres will be implemented.

/5

REQUIRED STAFF ESTABLISHMENT

Full Time

1 Lecturer at Lecturer I Scale (Mathematics/Science)
1 Radio Tutor
1 Lecturer at Lecturer II Scale
1 Secretary
3 Clerk Typists
1 Office Attendant/Machine Operator
3 Regional Office Assistants
1 Driver
3 Regional Administrative Assistants
1 Technician

Part Time

2 Lecturers (English - Course Writers)
2 Lecturers (Mathematics - Course Writers)
12 Regional Tutors
1 Illustrator

Equipment

4 Cassette Recorders
1 Copiette
4 Computers
1 Duplicating Machine
4 Typewriters
1 4 wheel drive vehicle
200 Cassettes

APPENDIX 7

...e Inputs

| | Equipment | Printing | | Counterpart | | Total |
|---|---|---|---|---|---|---|
| | | | Foreign | University of Guyana | Students' Fees | |
| Course Writers $4,000.00 per ... year course - Language | | | | | $4,000.00 | $4,000.00 |
| Mathematics | | | | | $8,000.00 | $8,000.00 |
| Tutor's (300 students in each of two courses at a rate of $405.00 per student per 12 months work. (Language and Mathematics) | | | | | 162,000.00 | 162,000.00 |
| | | | | | 324,000.00 | 324,000.00 |
| Lecturers | | | | 108,000.00 | | 108,000.00 |
| Administrative Assistants | | | | 6,900.00 | | 6,900.00 |
| Typists | | | | 33,739.20 | | 33,739.20 |
| Secretary | | | | 14,562.50 | | 14,562.50 |
| Office Assistants | | | | 37,[illegible].00 | | 37,[illegible].00 |
| Driver | | | | 11,246.40 | | 11,246.40 |
| ...echnician | | | | 17,436.00 | | 17,436.00 |
| Illustrators ($1,500.00 per course) | | | | 3,000.00 | | 3,000.00 |
| | 4 Cassette Recorders | | 66,000.00 | | | 66,000.00 |
| | 1 Copiette | | 25,000.00 | | | 25,000.00 |
| | 4 Computers | | 198,000.00 | | | 198,000.00 |
| | 1 Duplicating Machine | | 195,000.00 | | | 195,000.00 |
| | 4 Typewriters | | 160,000.00 | | | 160,000.00 |
| | 1 4 Wheel Drive Vehicle | | 500,000.00 | | | 500,000.00 |
| | Cassettes (200 @ $65.00) | | 13,000.00 | | | 13,000.00 |
| | Steel Shelves | | 45,000.00 | | | 45,000.00 |
| | | 300 Reams Paper | 123,570.00 | | | 123,570.00 |
| | | 15 Duplicating Ink | 3,516.00 | | | 3,516.00 |
| | | 30 Boxes Gestetner Stencils | 11,630.00 | | | 11,630.00 |
| | | | 1,303,746.00 | 232,372.10 | 420,000.00 | 2,084,118.10 |



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